JOURNAL ARTICLE ABSTRACTS

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The research world is facing "an information explosion" with several million research papers being published each year. There are also continual announcements of new journals being launched, either online or in hard copy or via both types of delivery. Many researchers have therefore to be highly selective in their reading, often focusing on skimming abstracts and key words. Journal article (JA) abstracts have thus become an increasingly important part-genre[1]. In the "old days" most papers did not have abstracts; surprisingly perhaps, they were only introduced into medical research articles in the 1960s. And the now-fashionable structured abstract (i.e. with named subsections) did not appear until 1987.[2]

According to Huckin (2001), JA abstracts have at least four distinguishable functions:

1. They function as stand-alone *mini-texts*, giving readers a short summary of a study's topic, methodology and main findings;

2. They function as *screening devices*, helping readers decide whether they wish to read the whole article or not;

3. They function as *previews* for readers intending to read the whole article, giving them a road-map for their reading;

4. They provide *indexing help* for professional abstract writers and editors.

In addition, there are suggestions, at least in the medical literature, (e.g. Bordage & McGaghie (2001)) that:

5. They provide *reviewers with an immediate oversight* of the paper they have been asked to review.

Task One

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[1] Genre is a name for a type of texts or discourse designed to achieve a set of communicative purposes. Following this terminology the research article is a genre, and various parts of it, such as the Abstract and Discussion, are part-genres.

[2] We will not be dealing with the abstracts found in abstracting journals or databases such as MEDLINE of LLBA. Many of these use special conventions and are typically rewritten or modified by professional abstract writers. Therefore they are beyond the scope of this module.

Rank these five functions in terms of their importance to you and your field. Are there any other functions that you can think of? Work in pairs if possible. Do your discussions change your own approach to constructing abstracts in any way?

Analysis of Unstructured Abstracts

Task Two

Read this abstract and answer the questions that follow. In order to answer the questions, you will probably find it necessary to put together a small reference collection (5-10 examples) of abstracts from a suitable journal or journals in your field.

Abstract
Many scholars claim that democracy improves the welfare of the poor. This article uses data on infant and child mortality to challenge this claim. Cross-national studies tend to exclude from their samples non-democratic states that have performed well; this leads to the mistaken inference that non-democracies have worse records than democracies. Once these and other flaws are corrected, democracy has little or no effect on infant and child mortality rates. Democracies spend more money on education and health than non-democracies, but these benefits seem to accrue to middle- and upper-income groups.

1. What field does this abstract come from? Here are some options:

      a) epidemiology

      b) political science

      c) social work

      d) contemporary world history

2. Underline what you consider to be the key clause in the abstract.

3. This abstract has five sentences, which is slightly shorter than the average of about 6.5 we found across a range of disciplines. Is this number of sentences typical for your field?

4. Librarians and information scientists traditionally divide abstracts into two types:

      Indicative abstracts lay out what will be done in the accompanying paper in the same way as a Table of Contents indicates what a book will cover;

      Informative abstracts summarize the main findings, and probably have a background statement, and possibly something about methods.

Is this abstract indicative or informative? Which is more common in your field? Is the distinction helpful? (There is more on this division in the Conference Abstract section).

5. What is the main tense used in this abstract? Why is this tense used? What is typical in your field?

6. This abstract uses no citations or references to previous research. Is this typical in your experience?

7. Does the abstract author or authors use "I" or "we"? What is your experience here?

8. In the above abstract there is a single "self-referring" or "metadiscoursal" expression[1]. In this case *this article* in Sentence 2. Are metadiscoursal expressions used in abstracts in your field? If so, what are the common nouns?

(Note that there are some cross-cultural preferences here: Spanish speakers often opting for "trabajo" (work) (Reinhart, 2007), while Arabic speakers prefer "baHth" (research), neither of which easily translate directly into English.)

9. Are acronyms/abbreviations used in the example abstract? In your field do they occur? And if so, of what kind?

10. Much recent work in discourse analysis has investigated the number of "rhetorical moves"[2] (or communicative stages) in abstracts in various fields—and in various languages. Most researchers identify a potential total of five moves. Terminology varies somewhat, but these are in their typical order as follows:

Move #	Typical labels	Implied questions
Move 1	Background/introduction/situation	what do we know about the topic?
Move 2	Present research/purpose	what is this study about?
Move 3	Methods/materials/subjects/procedures	how was it done?
Move 4	Results/findings	what was discovered?
Move 5	Discussion/conclusion/significance	what do the findings mean?

In the above abstract, how many moves can you find? And what are they?

Task Three

Now here are three more JA abstracts. Sentence numbers were added for your convenience. Choose the one closest to your own area and analyze it in terms of the ten questions. We repeat these for you in summary form below:

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[1] Metadiscourse is a common concept in studies of academic texts. It has various definitions. In this series, we use a narrow definition of "text about your text", as in "*In the following section*, we offer a computer simulation".
[2] Move. This is a stretch of test that does a particular job. It is a rhetorical, not a grammatical term. A move can vary in length from a phrase to a paragraph.

1. Field?

2. Key clause?

3. Length typical of your field?

4. Informative or indicative?

5. Most common verb tense?

6. Citations?

7. First person pronouns?

8. Metadiscourse?

9. Acronyms and abbreviations?

10. Move structure?

1.
① This article presents and develops a theoretical model (The Adaptive Response Model; ARM) that proposes how employees adapt to the organization following changes in organizational policies that are perceived as dissatisfying. ② The ARM combines several streams of theoretical and empirical research in IO-Psychology. ③ It suggests that different type of employees (i.e., institutionalized stars, citizens, lone wolves, and apathetics) resort to different behaviors to adjust to dissatisfying events. ④ Institutionalized stars tend to exercise voice, lone wolves tend to exit, citizens tend to accept, and apathetics tend to resort to alternative forms of withdrawal (e.g., lateness, absenteeism, and theft). ⑤ Implications for the management of each employee type as well as suggestions for future research are discussed.

2.
① Prekindergarten programs are expanding rapidly but evidence on their effects is limited. ② Using rich data from Early Childhood Longitudinal Study, we estimate the effects of prekindergarten on children's school readiness. ③ We find that prekindergarten is associated with higher reading and mathematics skills at school entry, but also higher levels of behavior problems. ④ By the spring of first grade, estimated effects on academic skills have largely dissipated, but the behavioral effects persist. ⑤ Larger and longer lasting associations with academic gains are found for disadvantaged children. ⑥

Finally, we find some evidence that prekindergartens located in public schools do not have adverse effects on behavior problems.

3.
① The spontaneous formation of cracks in biscuits following baking, also known as checking, is an issue that manufacturers would like to be able to predict and avoid. ② Unfortunately the mechanisms driving this phenomenon are not well understood. ③ Speckle interferometry was used to study moisture-induced in-plane strain development in biscuits. ④ This sensitive and non-contacting technique for measuring surface displacements has two major advantages over more commonly used methods; firstly, strains can be detected at a far higher sensitivity (down to 2×10^{-6}) than previously accessible and secondly the method is a whole-field technique, enabling observation of the development of strain distributions during moisture migration. ⑤ For biscuits exposed to step changes in humidity, initial strain rates of up to 10^{-5}min^{-1} were measured, which decreased as the moisture content approached equilibrium, leading to an accumulated strain of $\sim 10^{-2}$ after 48 h. ⑥ Under these conditions, a homogeneous, uniform strain distribution was observed. ⑦ The data were used to calculate the hygroscopic expansion coefficient, which was linearly related to moisture content and provides the necessary constitutive link between strain and biscuit moisture content needed to model biscuit checking.

Cross-cultural Comparisons

English-language JA abstracts are today often required for articles written in other languages—doubtless in an attempt to bring the summarized findings to a broader audience. Sarah Van Bonn and John recently completed a study of paired English and French JA abstracts in a language science journal published in France. They found that 24 of the 30 paired abstracts were very similar; in other words, the original language (whether French or English) had simply been translated into the second language. In the remaining 20%, however, the authors radically changed the English abstracts. Among the changes they noted were:

- leaving out local details only relevant to academics in France

- focusing more on theory rather than local teaching concerns

- splitting long French sentences into two.

- Using a more informal style (e.g. opting for "I" or "we")

Task Four (for those whose mother tongue is not English and who do not work in scientific and medical fields)

Write a short abstract of one of your current projects in your first language for a local journal. Translate it into English for a wider audience, making any changes you think appropriate. Write up a short commentary on any changes that you made and why you made them. Be prepared to discuss the changes made in class.

Getting started:
Abstract Openings in the case of Perinatology

Perinatology is a medical speciality dealing with foetuses and new-borns and has a number of research journals. Some of these use structured abstracts and some continue to use unstructured ones. As a preview here is a typical unstructured abstract from this field. We have blocked it into moves for you.

Abstract:

① The object of this study was to evaluate postpartum women for psychiatric symptomatology including cognitive disturbances, anxiety, depression, and anger to better meet their needs for support and involve them in the care of their infants.	**Move 2**
② We interviewed 52 postpartum mothers at the Bronx Lebanon Hospital Center within 5 days of delivery and determined the presence of psychiatric symptoms using the 29-item Psychiatric Symptom Index.	**Move 3**
③ Despite the fact that adult mothers were happier they were pregnant (71.4% versus 29.4%; $p = 0.010$) and less likely to be worried about their baby's health (25.7% versus 52.9%; $p = 0.003$), adult mothers demonstrated higher depressive symptomatology ($p = 0.009$), higher amounts of anger ($p = 0.004$), and greater overall psychiatric symptomatology ($p = 0.005$) than adolescent mothers. ④ Mothers whose infants were in the neonatal intensive care unit did not report significantly higher psychiatric symptomatology than mothers whose infants were healthy.	**Move 4**
⑤ Physicians need to be aware of the high levels of depression and anger present among postpartum women so appropriate support can be given.	**Move 5**

Note: In the Results move, the significant findings (S3) are given before the non-significant ones (S4).

Now to some details from an analysis of 20 perinatology <u>unstructured</u> abstracts.

In this mini-corpus, we found that there were four types of opening sentence:

1. <u>Purpose/objective</u> (8 instances)

   The purpose of this study was to identify risk factors and to characterize infants with transient tachypnea of the newborn (TTN).

2. (<u>Medical) phenomenon</u> (7 instances)

   Mild postnatal anemia is common.

3. (<u>Medical) practice</u> (3 instances)

   Continuous monitoring by pulse oximetry is a common practice for preterm and critically ill newborns.

4. <u>Researcher action</u> (2 instances)

   Premature infants < 1500 g were randomly assigned to study and control groups.

As can be seen, Types 2 and 3 realize Move 1 (Background). Ten out of the 20 fell into this category. There were eight instances of Move 2 (Type 1), and just two openings went straight for Move 3.

Task Five

A. Provide from your own area of research a second example opening sentence for each of the four opening types. Is there a type which you would not expect to find?

B. Now look at the opening sentences in your own reference corpus of abstracts. How many fall in each category? Do you need any new categories? be prepared to comment on your findings.

Language Focus: Links between S1 and S2

A question arises as to how abstract authors link their second sentences to the first.

The answer to the first question is very clear in the case of the 8 *purpose/objective* openings. In every case, the following sentence described <u>Researcher Action</u>.

Research suggests that there are basically three options:

   a) keep roughly the same subject (<u>continuing subject</u>)

b) put the new information in the second half of the first sentence in the subject position in the second. (<u>capturing subject</u>)

c) use a new subject (<u>new subject</u>)

Consider the data from the eight purpose openings above:

a) Continuing subject:

S1. *The purpose of this study* was to analyse the influence of … on mortality…
S2. *This* was a multicenter, prospective, observational study.

We can see here that the authors have in S2 commented further on the nature of their study. There were two examples of this strategy.

b) Capturing subject:

S1. The purpose of this study was to identify risk factors and to characterize *infants with transient tachypnea of the newborn* (TNN).
S2. *A total of 67 newborns with TTN*, born at gestational age (GA) > 35 weeks, were studied.

In this case, the authors have picked up the information toward the end of S1—typically new information—and repackaged it at the onset of S2. We have called this "a capturing" grammatical subject. There were four of these.

c) New subject

S1. The objective of this study was to define the variables associated with vaginal birth after cesarean section (VBAC) and to…
S2. *We* searched our computerized database for parturients with a history of….

In this case, the "we" subject introduced a new entity into the text. On the other hand, if the passive had been used, it would fallen under link type b), i.e.

S2a. *Our computerized database for parturients with a history of VBAC* was searched..

There were two of these.

New sentence subjects are quite common in abstracts for a number of reasons:

- Abstracts are highly compressed texts
- Authors expect readers to have considerable relevant content knowledge
- Readers' expectations of how abstracts will develop are well established.

Task Six

B. Below are four abstract opening sentences, each followed by three alternative second sentences. First, identify whether these second sentences are *continuing*, *capturing* or *new*. Second, be prepared to explain which second sentence you prefer and perhaps why.

1.
The purpose of this study was to identify risk factors and to characterize infants with transient tachypnea of the newborn (TTN).

a) A total of 67 newborns with TTN, born at gestational age of > 35 weeks, were studied.

b) We studied a total of 57 newborns with TTN, born at a gestational age of > 35 weeks.

c) The study examined a total of 67 newborns with TTN, born at a gestational age of > 35 weeks.

2.
The objective of this paper is to examine the flapping characteristics of insect wings.

a) This objective was realized through the use of two high-speed video cameras.

b) These characteristics were studied through the use of two high-speed video cameras.

c) For this purpose, we utilized two high-speed video cameras.

3.
As yet little is known about the information-seeking characteristics of today's undergraduate students.

a) The current study thus sought to gain an understanding of student information-seeking habits and preferences.

b) Identification of such characteristics would have several beneficial effects such as more efficient assignment design.

c) This lack of knowledge is impeding optimal delivery of library services.

4.
A general international observation is that adolescents from disadvantaged families are more likely to leave school at 16.

a) In this paper, we extend this literature by using a new dataset from New Zealand.

b) Such observations have, however, been largely derived from research conducted in the northern hemisphere.

c) Early school-leaving decisions typically have adverse consequences for lifetime income.

Compressing methods descriptions

A research group has written this opening to their draft JA abstract:

Abstract
① Increasing globalization is thought to be impacting business communications around the world (e.g. Connor, 2004). ② To assess possible impacts in one developing country, we examine contemporary written business communications in Turkey.

So far so good. Now for the Move 3 (Method etc). So far they have reduced their long methods section to the following summary:

③ The primary data used consist of approximately 300 memoranda (internal correspondence) and 150 fax messages (external correspondence) associated with four different Turkish companies selected to represent a range of sectors, sizes and management styles. ④ Analysis of the primary data was supported by interviews with executives from these four companies. (50 words).

" Still too long", they conclude. So each of the three members attempts a further reduction.

Task Seven
Which of the three alternatives do you prefer, and why? Work in pairs if possible. Can you come up with an even better fourth version (of no more than 25 words)?

Sunil's version

① The primary data consist of internal and external correspondence (faxes) from four very different Turkish companies. ② Secondary data comes from interviews with selected executives. (24 words).

Didar's version

① The main data consists of 300 memoranda and 150 faxes associated with four Turkish companies representing a range of different types of enterprise. (22 words)

Cengiz's version

① Internal memoranda and external faxes were collected from four Turkish companies of different size and management style. ② This primary data was supported by secondary interviews. (25 words)

(Commentary on Task 7)

Task Eight

Now how would you reduce this methods summary? It comes from a study on workplace ergonomics. allow yourself no more than 30 words.

① In a 14-week experiment, a total of 78 workers were asked to test keyboarding in alternating positions (between sitting and standing). ② There were two types of modified workstation (ALT1 and ALT2) in contrast to the sit-only position of their original workstations. ③ ALT1 allowed keying in both sitting and standing positions, while ALT2 allowed only a standing position. (59 words)

(Commentary on Task 8.)

Moving on:
Main results and "that" clauses in unstructured abstracts

In 2006, Ken Hyland and Polly Tse published an article on "that" clauses in RA abstracts. This study was based on 240 abstracts spread across six fields covering a wide spectrum of disciplines. They found that, on average, *that* clauses occurred 1.2 times per abstract. More relevantly, as many as 88% of the 272 clauses found were used to describe the article authors' own findings. Indeed, this remarkable percentage might have been higher if Hyland & Tse had included statements like:

The analyses indicate: 1) learning opportunities vary across school sector; and 2) private sector advantage was largely lost by 10th grade.

In this case, of course, the *that* has been suppressed.

In effect, the abstract writers were using these *that* clauses to give the major details of their results while prefacing them with an evaluative main clause. And here there was a strong tendency to use an inanimate subject (*The results…The findings of this study*) rather than a human subject (*We…I*)[1]. Secondly, there was a preference for a reporting verb (*demonstrate that, suggest that, indicate that*) rather than an adjective (it is *clear that*) or noun (one *conclusion* is *that*).

The use of such sentences operates powerfully to highlight and promote the importance of the study, while allowing authors, with their choice of reporting verb, to indicate the strength of claim from strong (e.g. *prove)* to weak (e.g. *suggest*) . As Hyland & Tse

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[1] In Hyland and Tse's data, the computer science abstracts constituted an exception to this generalization, where personal pronoun subjects were common.

themselves propose, these sentences are designed to encourage the reader to look through the accompanying full article. We can sense how this operates in these three examples:

- *This research shows that* junior scholars often need help with their abstracts.

- *The results offer clear evidence that* global warming is a reality.

- *The data strongly suggest that* democracies are flourishing in Latin America.

Task Nine

Convert five of these noun phrases into appropriate *that* clauses. Here is an example:

The results offer clear evidence of the reality of global warming

→ The results offer clear evidence that global warming is a reality.

1. Results confirm the influence of year of study and academic discipline on student information choices.

2. The evidence shows a primary association between the word *elderly* and discourses of care and disability.

3. The analysis indicates the dependence of the peak pressure of shock waves on the deformation speed of the overlays.

4. The findings generally support the idea of a profitable introduction of structured abstracts into research journals.

5. Our investigations indicate the greater probability of a future decline in the U.S. home construction.

6. Numerical results are presented as a demonstration of the efficiency of the algorithms from two points of view: mesh quality and computational effort.

7. Results show the higher R-value of transparent composites panels over that of current glazing systems.

8. I argue in favor of a constructivist theory of truth in opposition to other theories.

As you can see, the *that* clause variants give a somewhat greater emphasis to the findings than their noun-phrase equivalents. They may also allow authors to be a little more specific about their key findings.

The Bigger Picture

Let us now consider some more data from Hyland, this time from eight fields (Hyland, 2000).

Table 1. Percentage of abstracts containing particular moves (rounded %)

	1980	1997
1. Introduction/background	33	47
2. Purpose/objective	72	81
3. Method	48	49
4. Product/results	96	95
5. Conclusion/discussion/significance	7	22

As we can see, the major increases between 1980 and 1997 occurred in the opening and closing moves. Hyland ascribes these to increasing competition to get papers accepted by journals and to increasing competition to subsequently attract readers. As a result, the introduction can function to promote the importance of the topic, while the conclusion can emphasize the significance of the study.

Concluding an abstract

The Hyland data shows that even by 1997 distinctive and evaluative conclusions were quite rare in JAs across a wide range of disciplines. However, it is widely believed that in technological fields such as engineering and computer science there are often greater efforts to "boost" or "promote" the significance of the results.

To check on this, we studied 25 abstracts from 2006 issues of *Computer Modeling in Engineering and Science* (CMES). At least 18 of the 25 (72%) appeared to have definite and upbeat conclusions. In this sample, two common strategies were used. The first was to claim that the findings had wider applications—that the results were of considerable utility. Here are some examples (often in skeletal form) (our emphases):

1. We examine… and conclude that *the new methods can be applied to* the calculation of large rotations.

2. *The solution obtained in this work* can be used… for the spectral finite element method, where the variable coefficient is present.

3. The general characteristics… *demonstrate the capability* of the proposed procedure for locating sources of…

4. Even under… , *the new method is also applicable* by requiring only a few iterations. The method *is also extended to* the BVP with general boundary conditions.

The second strategy is to claim that the results themselves have intrinsically positive and important features:

5. The algorithm developed by… is found to *be a robust, fast and efficient method* for detecting…

6. Some numerical examples are given *to demonstrate the power and scope of the method.*

7. *The accuracy and efficiency of…* approach *was verified* by analyzing the…

8. Through the simulations, *it is clearly demonstrated* that MATES is *a powerful tool* to study complex city traffic problems precisely.

In a few cases, both strategies are used: A value claim followed by an applicability claim, as in:

9. Finally, the test data *verify that the optimal values are correct*. The research idea can be used in 3-dimension problems *too*.

Here it is worth noting that the majority of these papers originated in Asian countries, with four from Taiwan and three from Japan. Even so, the authors had little hesitation in concluding that their work demonstrates or verifies something that is correctly established and, further, is of relevance and importance. This finding contradicts the widely-held belief that it is primarily Americans who go in for this kind of self-promotion. Instead. Rather, it would seem that an international disciplinary consensus has emerged.

Task Ten

A. We believe that the previous extracts from the CMES abstracts are clearly evaluative. Now here are four less certain final sentences from the abstracts. Decide whether in your opinion they are descriptive (D) or (positively) evaluative (E). Discuss in pairs if possible.

1. ____ Selected numerical results are presented to demonstrate the effect of non-homogeneity on dynamic response of the media.

2. ____ It is also clarified that the penetration takes place from the interspace of the network.

3. ____ The J-R curves obtained also qualitatively agree with those of experiments, and the fracture surface is well simulated.

4. ____ The number of cracks was correctly estimated, even when the plural cracks were closely located and the measured electrical potential distribution was similar to that of a single crack.

B. Examine the final sentences from the small corpus of JAs from your own field. What similarities and differences do you find between the CMES abstracts and those from your own area? Do you have any explanation for the differences?

C. Take a piece of your own research. What is the strongest claim you could make for it? If possible, discuss alternative formulations with a partner.

Task Eleven

With the above in mind, draft a five-move JA abstract based on some work you have been doing. You should aim for between 5 and 8 sentences and a length of between 120 and 180 words.

Task Twelve

A friend of a friend of yours is a Brazilian dental researcher with somewhat limited experience of writing research English. She has written an article in Portuguese (with colleagues) on oral hygiene. The Brazilian journal requires an abstract in English as well. Below is most of her draft abstract, which your friend has asked you to edit. Do this in two stages:

First, think about the content, e.g.

a) Should you expand SP to Saō Paulo Province?
b) We were initially puzzled by the 99.1% and the 98.8%. Do you think you need to clarify these numbers?

Now edit the abstract for language.

Abstract: During years tooth brushing has been the most used way of oral hygiene around the world. But the toothbrush can transmit infectious and parasitoids diseases when used by more than one person. The aim of this search was to verify the oral hygiene habits and the collective toothbrushes use by the subjects of the same family in schoolchildren range from 6 to 12 years from Guatapará city/SP. It was achieve 336 interviews with children of both gender and the results demonstrated that 98.8% of children toothbrushes their teeth. The use of toothpaste was related by 99.1% and it was daily. ….. It was observed a small part of interviewers (2.7%) that still used a toothbrush of a collective way with another members of your family. So we concluded that frequent actions by the authorities are needed, to stimulate and create conditions of development and maintenance oral health. ….

Structured Abstracts

As noted earlier, structured abstracts were first adopted around 1987 in medicine and have since spread across several other fields, particularly in biological sciences and in some areas of psychology. A key researcher in this area is James Hartley, a British professor of psychology. In 2004, he published a review entitled "Current findings from research on structured abstracts". Here is his own structured abstract for that review article:

Background: Structured abstracts were introduced into medical research journals in the mid 1980s. Since then they have been widely used in this and other contexts.

Aim: The aim of this paper is to summarize the main findings from research on structured abstracts and to discuss the limitations of some aspects of this research.

Method: A narrative literature review of all the relevant papers known to the author was conducted.

Results: Structured abstracts are typically longer than traditional ones, but they are also judged to be more informative and accessible. Authors and readers also judge them to be more useful than traditional abstracts. However, not all studies use "real-life" published examples from different authors in their work, and more work needs to be done in some cases.

Conclusions: The findings generally support the notion that structured abstracts can be profitably introduced into research journals. Some arguments for this, however, have more support than others.

Task Thirteen
Consider and discuss the following:

1. Do journals in your field use structured abstracts? In your opinion, what are advantages of using structured abstracts and what potential problems can be associated with their use?

2. The research suggests that structured abstracts are easier to read, but much of this research has used undergraduate students as subjects. Would the same conclusions be found with more senior researchers?

3. Should authors be able to choose their own section titles, or should a journal have a standard set?

4. Hartley argues that the five-move labeling can also apply to survey or review articles such as his own. In this context, what do you think about his own Method section?

5. Why are structured abstracts apparently more acceptable in some fields rather than in others?

Task Fourteen
Below are 20 sample concordance lines[1] from a corpus of structured Perinatal JA abstracts. All the extracts *immediately* follow the upper-case heading OBJECTIVE. Scan the lines and do the tasks that follow. Work in pairs if possible.

OBJECTIVE:

1. To determine whether there is an unconfounded association between…
2. The purpose of this study was to evaluate how this change affected the rate of…
3. To examine maternal and neonatal outcomes in expectant management of…
4. To compare immediate changes in lung compliance following the administration of…
5. This study was conducted to examine the relation between iron status and…
6. To determine whether apnea in preterm infants is associated with..
7. The optimal method of epinephrine administration during…is not known.
8. To determine if either CPR or continuous IV EPI in NICU is of benefit…
9. To evaluate the impact of birth weight on development of…
10. To describe current NICU practices with respect to wrapping preterm infants…
11. Despite the high frequency of…, there has been no previous investigation…to…
12. The epidemiology of…in developing countries has been poorly studied.
13. Prospectively validate an antenatal…risk score…at two public health…clinics.
14. To evaluate the mechanism of oxidative stress at glucose levels accompanying…
15. The purpose of this study was to determine whether …concentrations…can identify…
16. The aim of this cohort, prospective study was to compare the diagnostic value of…
17. To systematically identify and synthesize investigations of the effectiveness of…

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[1] A corpus is a collection of texts or transcripts, increasingly today in electronic form to ease of manipulation. A concordance is a list of all occurrences of a keyword or phrase in a corpus – in this case, following the word "OBJECTIVE".

18. Insufficient tools for bedside prediction of…initiated this study.
19. To determine the threshold of metabolic acidosis associated with..
20. To study the effect of Phenobarbital given within six hours of life to…neonates…

1. Which of the above do you consider not to be concerned with OBJECTIVE?

2. Of the "true" objective/purpose statements, how many go directly to a "to + verb" formulation? What are the advantages and disadvantages of this formulation?

3. How do you interpret #13?

4. List all the purposive verbs used (i.e. those following "(in order) to") and calculate their frequencies. What might this tell us about research in this field?

Task Fifteen
Convert the political science abstract used in Task Two into a structured abstract. Be prepared to discuss any difficulties you found.

Language Focus: Opening the "Conclusion" section

As we have seen, in structured abstracts, the final section is typically labeled "**Conclusion:**" or "**Conclusions:**"

Two questions arise:

1. Do we jump right in with, say, "Smoking aids concentration" or do we start with formulae such as:

- "*The present findings provide further evidence that* smoking aids concentration."
- "*These data show that* smoking aids concentration."

2. For the main statements in a conclusion do we use the present or past tense? Is this a free choice, or is it determined by the content?

An analysis of 60 opening CONCLUSION sentences from structured abstracts in the Perinatal Corpus showed that just eight used a reporting verb formula.

Four of these were hedged, as in:

These preliminary results suggest that RT3DE has the potential to function as a screening tool for fetal heart disease.

Clearly then the authors of these papers wished to make it clear that they were somewhat cautious about the conclusions they could draw.

Three other papers used this structure in the opposite way—to strengthen their claim:

> The present findings *provide further evidence* of the individual and public health impact of SGAT birth.
>
> *Our findings clearly demonstrated that* thrombin treatment selectively increased the…

The remaining instance was, in effect, neutral and so added little to the sentence and might thus have been omitted:

> *These data indicate that low iron status…is related to poorer neurobehavioural status in premature infants.*

Bottom-line—in conclusions to a structured JA only use a reporting verb formula if you are anxious to emphasize the strength or weakness of the main conclusion . In most circumstances, do not bother.

Now to Question 2 . Here are the four basic options. We have also listed the actual verbs used whenever they occurred more than once.

Table 2

Simple Present	Modal Verbs	"Hedged" Verbs	Past Tense
43	7	3	7
is/are - 14 is/are associated with - 8 has/have - 2 provides - 2	may - 3 can - 2	appears to be - 2	increased - 2 was - 2

Table 2 clearly indicates a very strong preference for the Present Tense, presumably to show that the findings have contemporary relevance. As you can see, just a few of these were modified by a modal verb or by a "hedging" verb phrase, such as "appears to be". (There was also a single instance of *should* which was—as might be imagined—a recommendation.)

So are there cases when the Past would seem to be required? Consider:

a) Outcome *was* favorable in 85% of IVM cases, ….

Here the present would seem odd because the statement refers to the *cases examined by these particular researchers.*

b) A simple prediction-scoring model for LNS *was* developed.

Again the Present Tense might seem odd even if possible.

c) In practice, the risk score *identified* both asymptomatic and symptomatic cases.

Here we suspect that the insertion of "in practice" (aka in our experience) has narrowed the claim to the context of this particular study.

In other cases, the issue seems one of personal choice, although in this particular corpus authors seem to want to opt for the present wherever possible. For example, there eight instances of "is/are associated with" but just one of "was associated with".

Task Sixteen
Re-examine your corpus of 5-10 abstracts from your target journals (structured or unstructured). Find the Conclusion/Discussion/Significance opening statements. Examine the corpus in the light of the two questions listed at the beginning of this section. Be prepared to report your findings.